

## **Application**

Process Sample System -  
Low Temperature Maintain

## **Location**

Deepwater, NJ

## **Maintain Temperature**

-25°C

## **Product**

O'Brien Heavy Traced  
TRACEPAK® Bundle

The problem here was not freeze protection but keeping the liquid sample cool enough to prevent flashing until it was delivered to the sample conditioning cabinet. If the product had been allowed to flash at the point of extraction the sample lag time would have increased over 20X at the same flow rate. The length from tap to analyzer was already too long at 140 meters.

The problem was solved by using a Heavy Traced bundle, two tubes in intimate contact. HCFC-124 at -55°C was used as the cooling medium. Heat transfer calculations determined that additional insulation would be necessary to keep the bundle jacket from condensing the moisture in the air on hot humid summer days.